ISSN (print) 0093-4666 © 2010. Mycotaxon, Ltd. ISSN (online) 2154-8889

MYCOTAXON

DOI: 10.5248/114.217

Volume 114, pp. 217–223 *October–December 2010*

Two new species of *Septobasidium* (*Septobasidiaceae*) from Hainan Province in China

Chunxia Lu[1,2] & Lin Guo[1*]

*Ch.x.lu@hotmail.com & *guol@im.ac.cn*

[1]*Key Laboratory of Systematic Mycology and Lichenology*
Institute of Microbiology, Chinese Academy of Sciences
Beijing 100101, China

[2]*Graduate University of Chinese Academy of Sciences*
Beijing 100049, China

Abstract — Two new species, *Septobasidium hainanense* on *Harpullia* sp. associated with *Pseudaulacaspis* sp. and *Septobasidium ligustri* on *Ligustrum sinense* associated with *Lepidosaphes* sp., are described.

Key words — *Pucciniomycetes*, *Septobasidiales*, taxonomy

The mycota is very rich in tropical forests of Hainan. Several mycological investigations dealing with many new species including the genus *Septobasidium* were published recently (Dai & Cui 2006, Dai & Li 2010, Cui et al. 2009, Dai et al. 2009, Lu & Guo 2009a, 2010b, Yuan & Dai 2008, Xiong & Dai 2008, Wei & Dai 2008). The present paper belongs to a series of studies devoted to the fungal diversity of the Hainan Province. Two new species of *Septobasidium* are described as follows:

Septobasidium hainanense C.X. Lu & L. Guo, **sp. nov.** Figs. 1–7

MycoBank MB 518658

Basidiomata resupinata, 0.2–2.5 cm longa, 0.15–1 cm lata, purpurea, margine determinata, superficie laevia, in sectione 220–830 µm crassa. Subiculum brunneum, 25–60 µm crassum. Columnae brunneae, 50–110 µm altae, 60–155 µm crassae vel hyphis laxe completae. Strata hyphararum 70–505 µm alta, saepe strata horizontalia formantia, interdum hyphae partim successiveque crescentes et texturam hemisphaericam tum formantes. Hymenium 50–200 µm crassum. Hyphae hymenii erectae. Basidia cylindrica, recta vel curvata, 4-cellularia, 25–36 × 7–13 µm, hyalina vel brunneola. Sine probasidio. Basidiosporae non visae. Haustoria ex hyphis irregulariter spiralibus constantia.

*corresponding author

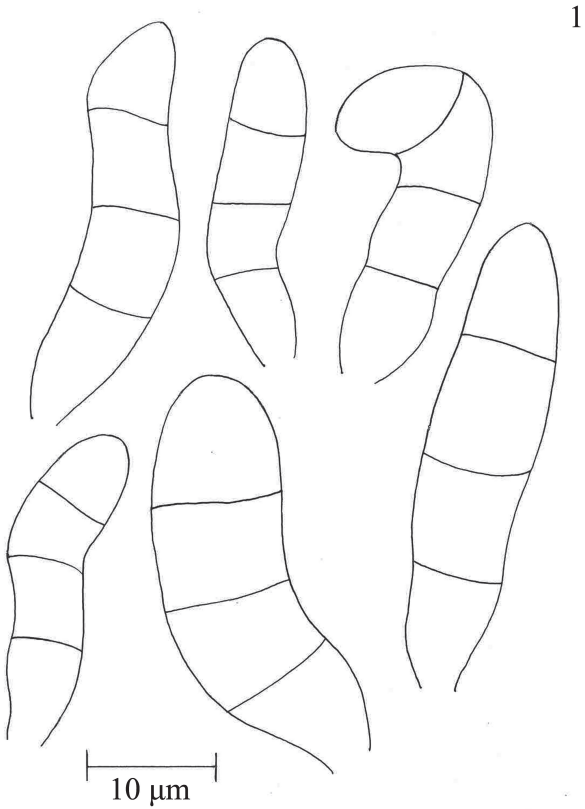
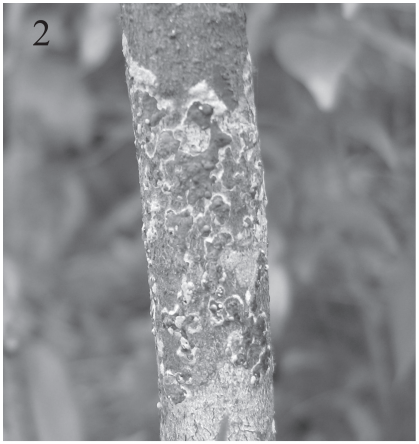


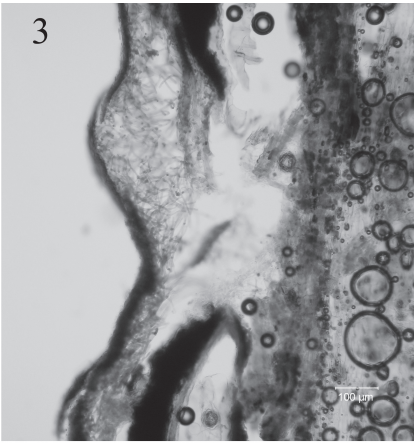
Fig. 1. Basidia of *Septobasidium hainanense* (HMAS 240078, holotype).

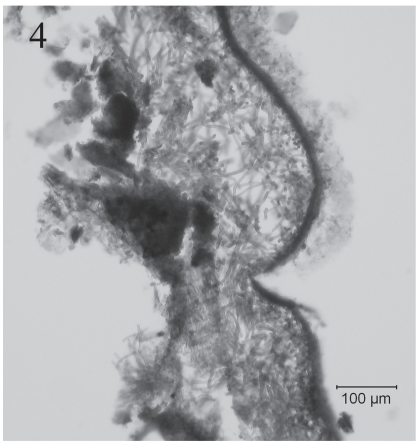
Type: On *Harpullia* sp. (*Sapindaceae*): China, Hainan, Bawangling, Yajia, alt. 740 m, 12.XII.2009, Y.F. Zhu & L. Guo 141, HMAS 240078 (**holotype**), associated with *Pseudaulacaspis* sp. (*Diaspididae*).

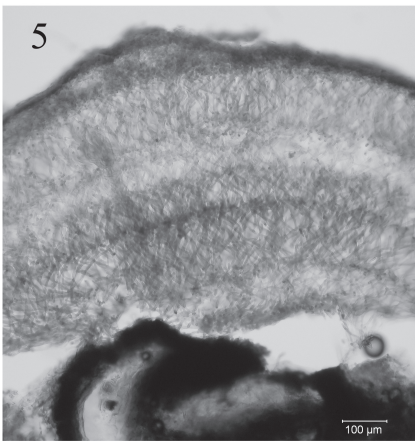
Basidiomata on trunks, resupinate, small, rounded, elongate or irregular, often confluent, 0.2–2.5 cm long, 0.15–1 cm wide, purple; margin determinate; surface smooth, often with mounds. In section 220–830 μm thick. Subiculum brown, 25–60 μm thick. Pillars brown, 50–110 μm high, 60–155 μm wide, sometimes loosely filled with hyphae from the subiculum. Hyphal layer 70–505 μm high, often forming a distinct horizontal layer, sometimes hyphae partly and successively growing and forming hemispheric tissue. Hymenial layer 50–200 μm thick, with closely arranged upright hyphae. Basidia arising directly from

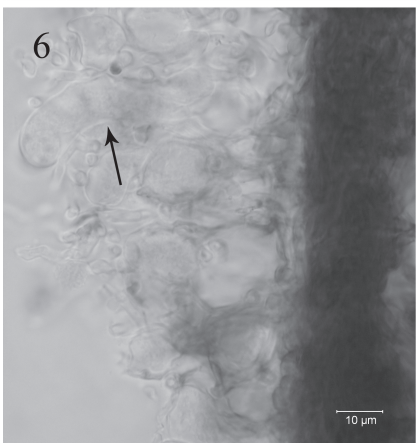
Figs. 2–7 (right). *Septobasidium hainanense* (HMAS 240078, holotype). 2. Basidiomata on trunk. 3–5. Sections of basidiomata. 6. Basidium (arrow). 7. Haustoria.

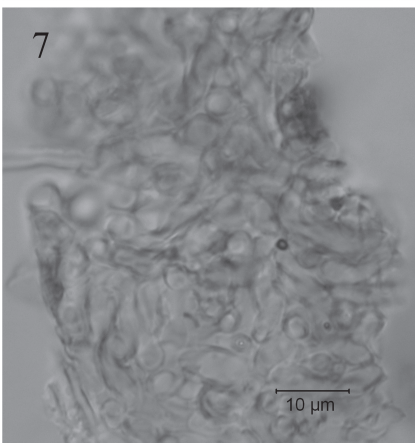

2


3
100 µm


4
100 µm


5
100 µm


6
10 µm


7
10 µm

the hyphae, cylindrical, straight or curved, 4-celled, 25–36 × 7–13 μm, hyaline or brownish, without a probasidial cell. Basidiospores not seen. Haustoria consisting of irregularly coiled hyphae.

Remarks: Morphologically, *Septobasidium hainanense* is similar to *S. lichenicola* (Berk. & Broome) Petch, from which it differs in having small patches of basidiomata, hyphae partly growing and forming hemispheric tissue, and with pillars or loosely filled with hyphae from subiculum. *Septobasidium lichenicola* has large patches of basidiomata, hyphae not forming hemispheric tissue and not loosely filled with hyphae from subiculum.

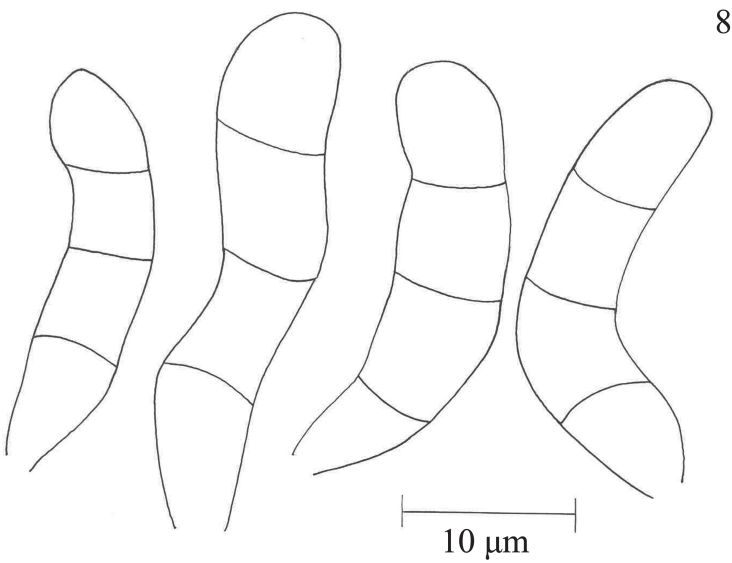


Fig. 8. Basidia of *Septobasidium ligustri* (HMAS 240079, holotype).

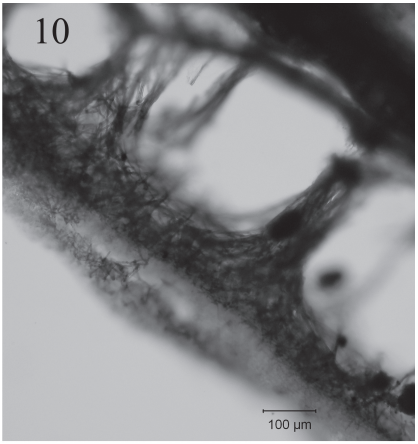
Septobasidium ligustri C.X. Lu & L. Guo, **sp. nov.** Figs. 8–14

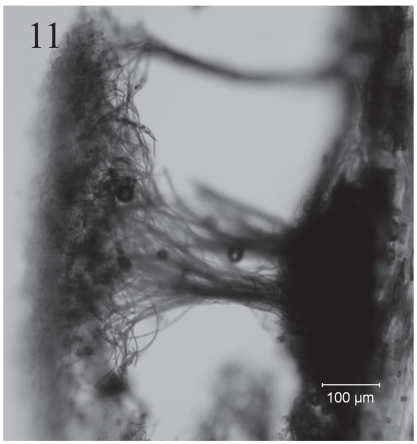
MycoBank MB 518659

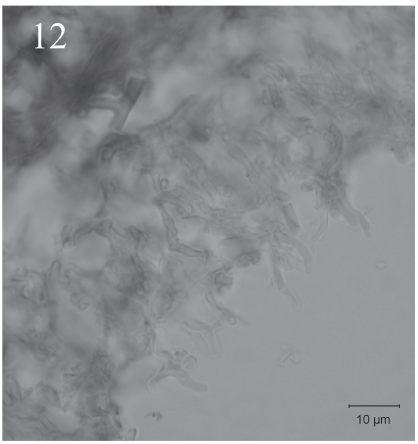
Basidiomata resupinata, 9–20 cm longa, 1–3 cm lata, griseo-brunnea, margine determinata, superficie laevia, maturitate fissurata, in sectione 480–630 μm crassa. Subiculum brunneum, 20–60 μm crassum. Columnae brunneolae, 210–390 μm altae, 30–150 μm latae, extus ramosae strata hypharum 100–170 μm alta tum formantes. Hymenium 50–80 μm crassum. Hyphae hymenii irregulariter dispositae, erectae, ramosae. Basidia cylindrica, recta vel curvata, 4-cellularia, 15–29 × 5–7.5 μm, hyalina. Sine probasidio. Sterigmata 3–8 μm longa. Basidiospora ovoidea, 9 × 4 μm, hyalina. Haustoria ex hyphis irregulariter spiralibus constantia.

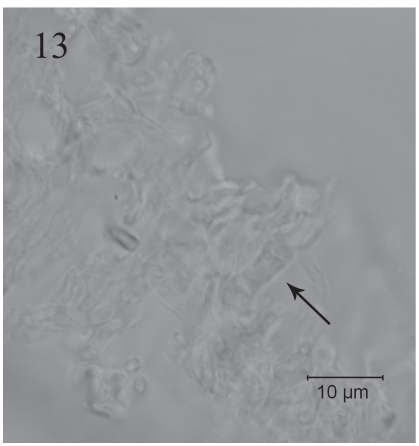
Figs. 9–14 (right). *Septobasidium ligustri* (HMAS 240079, holotype). 9. Basidiomata on branch. 10–11. Sections of basidiomata. 12. Hymenium. 13. Basidium (arrow). 14. Haustoria.

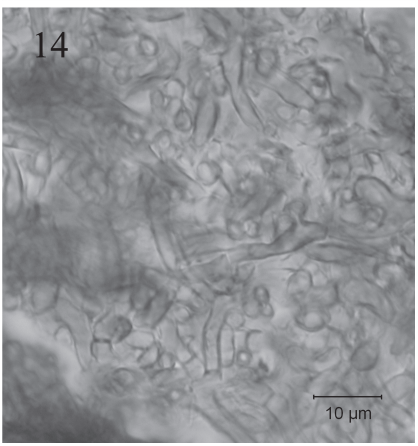
9


10
100 µm


11
100 µm


12
10 µm


13
10 µm


14
10 µm

Type: On *Ligustrum sinense* Lour. (*Oleaceae*): China, Hainan, Wanning, Xinglong Tropical Plant Garden, alt. 38 m, 6.XII.2009, Y.F. Zhu & L. Guo 41, HMAS 240079 (**holotype**), associated with *Lepidosaphes* sp. (*Diaspididae*).

Basidiomata on branches, resupinate, 9–20 cm long, 1–3 cm wide, grey-brown; margin determinate; surface smooth, becoming cracked. In section 480–630 µm thick. Subiculum brown, 20–60 µm thick. Pillars brownish, 210–390 µm high, 30–150 µm wide, branched outwards to form a 100–170 µm high hyphal layer. Hymenium 50–80 µm thick, with irregularly arranged upright branched hyphae. Basidia arising directly from the hyphae, cylindrical, straight or curved, 4-celled, 15–29 × 5–7.5 µm, hyaline, without a probasidial cell. Sterigmata 3–8 µm long. Basidiospore ovoid, 9 × 4 µm, hyaline. Haustoria consisting of irregularly coiled hyphae.

Remarks: Morphologically, *Septobasidium ligustri* is similar to *S. septobasidioides* (Henn.) Höhn. & Litsch., but differs mainly in having grey-brown basidioma, thinner section (480–630 µm vs about 1 mm) and smaller basidia (15–29 × 5–7.5 µm vs 40–55 × 8.4–10 µm).

To date, 28 species of *Septobasidium* have been reported in China (Sawada 1933, Couch 1938, Teng 1963, Tai 1979, Kirschner & Chen 2007, Lu & Guo 2009a, b, c, 2010a, b, Lu et al. 2010), including the two new species reported in this paper.

Acknowledgements

The authors would like to express their deep thanks to Drs Eric H.C. McKenzie (Auckland, New Zealand) and Shuanghui He (Beijing Forestry University) for serving as pre-submission reviewers, to Dr. Shaun Pennycook (Auckland, New Zealand) for nomenclatural review, to Prof. Jianyun Zhuang (Institute of Microbiology, Chinese Academy of Sciences) for Latin corrections, to Mr Ziyu Cao (Institute of Botany, Chinese Academy of Sciences) for identifying the host plants, to Prof. Sanan Wu (Beijing Forestry University) for identifying the scale insects, and to Mrs Xiangfei Zhu for inking in line drawings. This study was supported by the Ministry of Science and Technology of the People's Republic of China (No. 2006FY110500–5).

Literature cited

Couch JN. 1938. The genus *Septobasidium*. Univ. of North Carolina Press, Chapel Hill. 480 p.

Cui BK, Dai YC, Bao HY. 2009. Wood-inhabiting fungi in southern China 3. A new species of *Phellinus* (*Hymenochaetales*) from tropical China. Mycotaxon, 110: 125–130.

Dai YC, Cui BK. 2006. Two new species of *Wrightoporia* (*Basidiomycota*, *Aphyllophorales*) from southern China. Mycotaxon 96: 199–206.

Dai YC, Cui BK, Yuan HS. 2009. *Trichaptum* (*Basidiomycota*, *Hymenochaetales*) from China with a description of three new species. Mycol. Progr. 8: 281–287. doi:10.1007/s11557-009-0598-0

Dai YC, Li HJ. 2010. Notes on *Hydnochaete* (*Hymenochaetales*) with a seta-less new species discovered in China. Mycotaxon 111: 481–487.

Kirschner R, Chen CJ. 2007. New reports of two hypophyllous *Septobasidium* species from Taiwan. Fung. Sci. 22: 39–46.

Lu CX, Guo L. 2009a. *Septobasidium maesae* sp. nov. (*Septobasidiaceae*) from China. Mycotaxon 109: 103–106.

Lu CX, Guo L. 2009b. Two new species of *Septobasidium* (*Septobasidiaceae*) from China. Mycotaxon 109: 477–482.

Lu CX, Guo L. 2009c. *Septobasidium annulatum* sp. nov. (*Septobasidiaceae*) and *Septobasidium kameii* new to China. Mycotaxon 110: 239–245.

Lu CX, Guo L. 2010a. Three new species of *Septobasidium* (*Septobasidiaceae*) from Gaoligong Mountains in China. Mycotaxon 112: 143–151.

Lu CX, Guo L. 2010b. Two new species of *Septobasidium* (*Septobasidiaceae*) and *S. pallidum* new to China. Mycotaxon 113: 87–93. doi:10.5248/113.87

Lu CX, Guo L, Wei JG, Li JB. 2010. Two new species of *Septobasidium* (*Septobasidiaceae*) from southern China. Mycotaxon 111: 269–274.

Sawada K. 1933. Descriptive catalogue of the Formosan fungi. Part VI. Rep. Dept. Agric. Govt. Res. Inst. Formosa 61: 1–99.

Tai FL. 1979. Sylloge Fungorum Sinicorum. Science Press, Beijing. 1527 p.

Teng SC. 1963. Fungi of China. Science Press, Beijing. 808 p.

Wei YL, Dai YC. 2008. Notes on *Elmerina* and *Protomerulius* (*Basidiomycota*). Mycotaxon 105: 349–354.

Xiong HX, Dai YC. 2008. A new species of *Inonotus* (*Basidiomycota*, *Hymenochaetaceae*) from China. Crypt. Mycol. 29: 279–283.

Yuan HS, Dai YC. 2008. Two new species of *Junghuhnia* (*Basidiomycota*, *Polyporales*), and a key to the species of China. Nord. J. Bot. 26: 96–100.